

**KHIMJI FLOW EQUIPMENTS PVT. LTD.**

Block No. 67/E, 67/F, Tarihal - Revadihal Road,  
REVADIHAL VILLAGE - 580 026

Karnataka, India



**FIRE SAFE TEST CERTIFICATE**

According to API-607-7<sup>th</sup> Edition, June 2016

**Report NO: 007**

Customer Name : Flow link systems (P) Ltd, Coimbatore  
Test Location : Khimji flow equipments Pvt. Ltd.  
Date of testing : 22<sup>nd</sup> March 2021  
Valve Description : Ball valve  
Size & Rating : Full port 6" Class 150 RF  
Valve Drawing : 10303052001 Rev. 0

**Valve Material:**

Body and Adapter : ASTM A352 Gr.LCC  
Trim : ASTM A479 Gr.316 & ASTM A182-F316  
Seals : SOFT SEALS  
Valve Serial No : 20008503001

The above valve was tested in accordance with the standard API-607-7<sup>th</sup> Edition June 2016, the test equipment and Testing procedures are confirming to the required specifications.

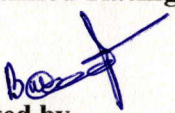
All the tests conducted as per API-607-7<sup>th</sup> Edition June 2016, requirements and found accepted.

**Range Qualified:**

This valve qualifies following sizes and class rating as per API-607-7<sup>th</sup> Edition June 2016,

**Qualified sizes** : NPS 6", 8", 10" & 12" (DN 150, 200, 250 & 300)

**Qualified Ratings** : 150 & 300 (PN 20 & 50)

  
Tested by

M.E.BHUTE

  
Approved by

R.BASKARAN

Witnessed by

KRISHNA KALWAD







### FIRE SAFE TEST CERTIFICATE

REPORT NO: 007

Customer: Flow link systems (P) Ltd, Coimbatore

Test Standard: API-607-7<sup>th</sup> Edition, June 2016

Place: <b>KHIMJI FLOW EQUIPMENTS PVT. LTD. Hubli , Karnataka, India</b>	Test SL. NO :007	Date : 22-03-2021
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#### OBSERVATIONS

1	Water level in water vessel before Fire Test (h1) mm	910
2	Water level after Cooling (h2) mm	840
3	Seat Leakage during	
	a) Burn period ( HP) – ( V1)ml	5600
	b) Cooling down period ( HP) – (V2)ml	1200
	c) After Cool down period (LP) – (V3)ml	800
4	External leakage :	
	a) After cool down period ( LP) – ( V4)ml	650
	b) External during burn & cool down period ( HP)- (V5)ml [Total Volume consumed i.e., Difference in water level H * Water level constant – V1+V2+V3+V4 ]	4910
	External leakage after operation test ( HP) – (V6)ml	550
5	Test durations:	
	a) Burn period – (t1) min	30
	b) Fire test period (up to cool down) – (t2) min	35
	c) Low pressure test period – (t3) min	5
	d) External HP test period after operational – (t4) min	5
6	Water Vessel Calibration constant – ( K) ml/min	188
7	Cavity Volume(initially measured ) – (V7) ml	7190
8	Difference in Water Lever – (H=h1-h2)mm	70
9	Total Volume Consumed – H*188	13160

#### TEST RESULTS

Leakage	Test Condition	Formula	Leakage Rate Actual ( ml/min)	Allowable Max ( ml/min)	
1	Seat	Burn Period	V1/t1	186.7	2400
2	Seat	After Cool down period	V3/t3	160	240
3	External	Fire test period	V5/t2	140.3	600
4	External	After Cool down period	V4/t3	130	150
5	External	After Operational test	V6/t4	110	150

Test Result: PASSED

Tested by

M.E.BHUTE



Approved by

R.BASKARAN



Witnessed By

KRISHNA KALWAD







**FLOW LINK SYSTEMS (P) Ltd, Coimbatore**

## FIRE SAFE TEST CERTIFICATE

FIRE SAFE TEST REPORT NO : 007

1. TEST CONDUCTED AT : KHIMJI FLOW EQUIPMENTS PVT LTD	7. WEIGHT OF THE VALVE : 83.2 kgs
2. DESIGN STANDARD OF VALVE : API-6D & API 608	8. VALVE SERIAL NO : 20008503001
3. TESTING STANDARD : API-607 & API-598	9. TEST DATE : 22-03-2021
4. TEST VALVE : NPS 6" CLASS 150	10. MATERIAL OF CONSTRUCTION OF TEST VALVE
5. RANGE OF VALVES COVERED : RF FLANGE ENDS BALL VALVE FP	a) BODY & ADAPTER : ASTM A352 Gr. LCC
6. TEST VALVE DRAWING NO : 10303052001 REV 0	b) BALL & STEM : F316 & 316
	c) SEAT : SOFT SEALS
	d) BODY SEAL : SOFT SEALS
	e) STUD : ASTM A320 Gr. L7M
	f) NUT : ASTM A194 Gr. 7M

TEST VALVE PASSED HYDROSTATIC SHELL & SEAT TEST BEFORE FIRE SAFE TEST

### TABULATION

#### FIRE TEST TEMPERATURE / PRESSURE MEASUREMENT DETAILS

SL.NO:	TIME (MIN)	GAUGE PRESSURE Bar		FLAME THEROCOUPLE TEMPERATURE (°C)			BODY AND ADAPTER THERMOCOUPLE TEMPERATURE (°C)		CALORIMETER CUBE THERMOCOUPLE TEMPERATURE (°C)				REMARKS
		UPSTREAM	CAVITY	BELOW BODY	NEAR STEM	AVG (T1)	BODY (T2)	ADAPTER (T3)	BELOW BODY	NEAR END PIECE	NEAR STEM	AVG (T4)	
1	0.0	2	2	105	192	148.5	106	124	199	212	215	208.7	
2	0.5	2	2	156	198	177	128	187	205	253	264	240.7	
3	1.5	2	2	198	205	201.5	138	198	215	245	255	238.3	
4	2.0	2	2	220	216	218	158	199	245	287	289	273.7	
5	2.5	2	2	256	231	243.5	177	204	264	299	301	288.0	
6	3.0	2	2	305	240	272.5	189	225	287	312	315	304.7	
7	3.5	2	2	358	245	301.5	199	245	356	342	346	348.0	
8	4.0	2	2	401	258	329.5	217	264	378	356	358	364.0	
9	4.5	2	2	492	304	398	225	298	389	368	387	381.3	
10	5.0	2	2	502	334	418	236	316	412	376	379	389.0	
11	5.5	2	2	509	346	427.5	298	335	428	405	380	404.3	
12	5.0	2	2	524	380	452	315	348	464	435	415	438.0	
13	6.0	2	2	538	425	481.5	349	356	480	478	435	464.3	
14	6.5	2	2	558	455	506.5	387	368	504	486	444	478.0	
15	7.0	2	2	566	487	526.5	445	369	518	498	448	488.0	
16	7.5	2	2	574	506	540	489	389	534	502	466	500.7	
17	8.0	2	2	605	519	562	523	405	555	526	470	517.0	
18	8.5	2	2	616	528	572	545	454	560	545	478	527.7	
19	9.0	2	2	628	530	579	598	487	587	564	488	546.3	
20	9.5	2	2	636	554	595	612	501	598	568	504	556.7	
21	10.0	2	2	645	561	603	624	523	605	562	515	560.7	
22	10.5	2	3	656	560	608	630	543	615	568	526	569.7	
23	11.0	2	4	669	605	637	649	550	632	578	538	582.7	
24	11.5	2	5	678	645	661.5	668	580	645	597	545	595.7	
25	12.0	2	4	680	662	671	679	584	658	615	580	617.7	
26	12.5	2	5	690	678	684	691	604	664	624	594	627.3	
27	13.0	2	6	698	686	692	703	628	668	629	604	633.7	
28	13.5	2	4	699	690	694.5	715	632	669	638	615	640.7	
29	14.0	2	6	712	698	705	724	644	679	649	625	651.0	
30	14.5	2	4	724	708	716	721	652	687	658	628	657.7	
31	15.0	2	2	735	715	725	735	660	704	677	634	671.7	
32	15.5	2	2	740	724	732	744	674	715	698	645	686.0	
33	16.0	2	2	745	745	745	756	681	724	705	658	695.7	
34	16.5	2	2	750	761	755.5	754	699	730	715	660	701.7	

**WITNESS BY:**

<p>INSPECTOR TUV NORD INDIA KRISHNA KALWAD</p>	<p>APPROVED BY R. BASKARAN</p>	<p>TESTED BY KFEL HUBLI M.E. BHUTE</p>
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**FLOW LINK SYSTEMS (P) Ltd, Coimbatore**

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35	17.0	2	2	750	762	756	758	701	138	718	666	507.3	
36	17.5	2	2	766	768	767	760	712	745	828	678	750.3	
37	18.0	2	2	774	782	778	768	732	748	723	684	718.3	
38	18.5	2	2	784	788	786	770	732	756	724	685	721.7	
39	19.0	2	2	789	799	794	774	734	768	729	689	728.7	
40	19.5	2	2	780	804	792	784	736	764	735	695	731.3	
41	20.0	2	3	780	812	796	789	745	778	736	705	739.7	
42	20.5	2	3	779	828	803.5	790	745	778	718	712	736.0	
43	21.0	2	4	777	835	806	805	749	794	724	718	745.3	
44	21.5	2	4	764	845	804.5	815	756	798	754	724	758.7	
45	22.0	2	4	778	866	822	824	745	801	760	729	763.3	
46	22.5	2	5	780	879	829.5	826	746	815	764	731	770.0	
47	23.0	2	5	815	877	846	829	748	824	768	745	779.0	
48	23.5	2	8	824	874	849	836	764	815	777	746	779.3	
49	24.0	2	10	826	880	853	840	768	816	789	749	784.7	
50	24.5	2	12	840	884	862	842	770	818	780	752	783.3	
51	25.0	2	12	832	883	857.5	846	779	828	795	764	795.7	
52	25.5	2	9	830	881	855.5	854	780	835	787	780	800.7	
53	26.0	2	8	824	868	846	860	787	845	798	784	809.0	
54	26.5	2	10	826	860	843	864	784	855	805	790	816.7	
55	27.0	2	12	830	852	841	870	790	865	812	799	825.3	
56	27.5	2	7	835	845	840	866	794	866	815	805	828.7	
57	28.0	2	6	838	840	839	868	799	870	824	814	836.0	
58	28.5	2	5	842	842	842	869	804	875	804	819	832.7	
59	29.0	2	4	854	848	851	868	815	865	780	820	821.7	
60	29.5	2	2	845	835	840	850	825	848	768	834	816.7	
61	30.0	2	2	830	814	822	824	814	840	754	810	801.3	
62	30.5	2	2	828	802	815	800	801	825	723	786	778.0	
63	31.0	2	2	740	751	745.5	740	750	801	684	768	751.0	
64	31.5	2	2	623	680	651.5	684	641	745	640	721	702.0	
65	32.0	2	2	540	605	572.5	622	601	680	621	645	648.7	
66	32.5	2	2	461	541	501	548	526	590	570	600	586.7	
67	33.0	2	2	412	418	415	451	440	448	458	531	479.0	
68	33.5	2	2	380	365	372.5	299	312	340	299	368	335.7	

**WITNESS BY:**

<p>INSPECTOR TUV NORD INDIA KRISHNA KALWAD</p>	<p>APPROVED BY R.BASKARAN</p>	<p>TESTED BY KFEL HUBLI M.E.BHUTE</p>
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